

IN THE CLAIMS

1. (currently amended) A process for the acylation of an aromatic compound $(R_1 R_2 R_3 R_4)\text{-M-H}$ of formula (I), wherein M is a single aromatic ring of 6 carbon atoms, a fused aromatic ring containing 10 carbon atoms and comprising 2 aromatic rings or a fused aromatic ring of 14 carbons atoms and comprising three aromatic rings; R_1 , R_2 , R_3 and R_4 are chemical groups attached to the aromatic ring wherein R_1 , R_2 , R_3 and R_4 are selected from the group consisting of hydrogen, alkane, alkene, phenyl, alkoxy, phenoxy, hydroxyl, acyl, ketones, amine, amide, thio, sulphonic acid, nitro or cyano group; by using an acylating agent of formula (II) $(R_5 R_6 R_7\text{-Y-X})$ wherein Y is a nucleus of an acylating agent and is selected from the group consisting of C-CO , $\text{C}_n\text{H}_{2n-2}\text{CO}$, $\text{C}_6\text{H}_2\text{-CO}$ and $\text{C}_6\text{H}_2\text{C}_n\text{H}_{2n-2}\text{-CO}$,
 n is an integer greater than zero and m is an integer greater than zero.

X is a halogen atom or a hydroxyl group, and

R_5 , R_6 and R_7 are chemical groups attached to the nucleus of the acylating agent and are selected from the group consisting of hydrogen, alkane, alkene, phenyl, alkoxy, phenoxy, hydroxyl, acyl, ketones, amine, amide, thio, sulphonic acid, nitro or cyano group wherein the acylating agent of formula (II) comprises comprising at least one carbonyl group (C=O) ; using and a reusable solid catalyst, which comprises the steps of,

i) reacting under stirring a crystalline micro- or mesoporous inorganic solid comprising surface hydroxyl groups with at least one anhydrous metal halide selected from the group consisting of anhydrous halides of Al, Ga, In, Fe and Ti and Fe, dissolved in a non-aqueous solvent, with the metal halide to the inorganic solid weight ratio in the range from 0.01 to 1.0 in the presence or absence of a flowing inert gas at a temperature in the range from 20°C to 200°C , such that the amount of metal halide(s) consumed in the reaction is at least 0.1 mmol per gram of the inorganic solid and also the amount of hydrogen halide evolved in the reaction is at least 0.1 mole per mole of the metal halide(s) consumed in the reaction;

ii) separating the resulting solid which is an organic solid catalyst

from the reaction mixture obtained from step (i), washing, ~~by~~ with the non-aqueous solvent and drying under moisture-free atmosphere;

iii) contacting in a stirred batch reactor a liquid reaction mixture comprising aromatic compound (I) and acylating agent (II) with the inorganic solid catalyst obtained from step (ii), ~~designated as solid catalysts (III)~~ in catalytic amounts at the following reaction conditions: the weight ratio of solid catalyst ~~(III)~~ to acylating agent (II) is in the range from 0.005 to 1.0, the mole ratio of acylating agent (II) to aromatic compound (I) is in the range from 0.01 to 10, the temperature is in the range from 50°C to 300°C and the pressure is at least one atmosphere ~~atmospheric one~~;

iv) separating the solid catalyst ~~(III)~~ and isolating the product(s), and the reactants, aromatic compound (I) and acylating agent (II) from the reaction mixture; and

v) recycling the solid catalyst ~~catalysts (III)~~ for its reuse ~~to~~ in step (iii).

2. (original) A process as claimed in claim 1 wherein, the crystalline solid used in step (i) is Si-MCM-41 or crystalline cationic clay.

3. (currently amended) A process as claimed in claim ~~1~~ 2 wherein, the cationic clay is Montmorillonite.

4. (currently amended) A process as claimed in claim 1 wherein, the metal halide used in step (i) is anhydrous $AlCl_3$, ~~and/or~~ $GaCl_3$ or a mixture thereof.

5. (previously presented) A process as claimed in claim 1 wherein, the non-aqueous solvent used in step (i) is carbon tetrachloride, dichloroethane or acetonitrile.

6. (previously presented) A process as claimed in claim 1 wherein, the reaction in step (i) is carried out in a flow of inert gas selected from N_2 ,

He or Ar.

7. (previously presented) A process as claimed in claim 1 wherein, the amount of hydrogen halide evolved in the reaction in step (i) is between 0.5 to 3 mol per mole of the metal halide consumed in the reaction.

8. (previously presented) A process as claimed in claim 1 wherein, the amount of metal halide consumed in the reaction in step (i) is between 0.5 and 5.0 mmol per gram of the inorganic solid.

9. (currently amended) A process as claimed in claim 1 wherein, aromatic compound (I) used in step (iii) is selected from the group consisting of nitrobenzene, dinitrobenzenes, nitro naphthalenes, substituted nitrobenzenes and substituted nitro naphthalenes.

10. (currently amended) A process as claimed in claim 1 wherein, the acylating agent (II) used in step (iii) is selected from the group consisting of benzoyl chloride, benzoyl bromide, acetyl chloride, acetyl bromide, substituted benzoyl chloride or substituted acetyl chloride.

11. (currently amended) A process as claimed in claim 1 wherein, the weight ratio of solid catalyst (III) to acylating agent (II) is between 0.05 and 0.5.

12. (previously presented) A process as claimed in claim 1 wherein, the mole ratio of acylating agent (II) to aromatic compound (I) is between 0.05 and 1.0.

13. (previously presented) A process as claimed in claim 1 wherein, the temperature in step (iii) is between 50°C and 250°C.

14. (previously presented) A process as claimed in claim 1 wherein,

the pressure in step (iii) is between 1 atm and 10 atm.

15. (canceled).